AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A bone implant suitable for implantation in an implantation direction parallel to an implant axis (I) in a cavity surrounded by a cavity wall (K) of bone tissue and comprising an implant portion, wherein the implant portion to be implanted comprises a first type of surface ranges of a material, which is liquefiable (M) by mechanical oscillation, or a second type of surface ranges formed by pressing the liquefiable material out of a hollow space in the implant through openings, and wherein the implant portion to be implanted is shaped to be implanted without substantial rotation, and further comprises chip forming cutting edges ~~capable of~~ cutting the cavity wall of bone tissue, said cutting edges being located outside the first type of surface ranges provided or the second type of surface ranges to be created, said cutting edges not extending in a common plane with the implant axis (I), said cutting edges facing toward a distal end region of the implant and extending at least partly around the circumference of the implant, wherein said cutting edges are shaped to be moved into the bone tissue generally in the direction of the implant axis, and wherein said cutting edges are distanced from the implant axis by implant-axis-to-cutting-edge-distances, which implant-axis-to-cutting-edge-distances are decreasing in the implanting direction.

2. (Previously Presented) The bone implant according to claim 1, wherein the cutting edges comprise a wedge angle (ß) of less than 90°.

3. (Previously Presented) The bone implant according to claim 1, wherein the cutting edges are designed to be salient.

4. (Previously Presented) The bone implant according to claim 1, wherein the cutting edges are undercut to form a chip space .

5. (Previously Presented) The bone implant according to claim 1, wherein the liquefiable material (M) is situated in depressions and the surface ranges of the liquefiable material (M) protrude from surface areas surrounding the depressions.

6. (Previously Presented) The bone implant according to claim 1, wherein the openings lead into the depressions.

7. (Previously Presented) The bone implant according to claim 5, wherein the depressions are grooves extending axially or spirally across the implant region to be implanted.

8. (Previously Presented) The bone implant according to claim 1, wherein osseointegrative surface areas are situated between the surface ranges of the liquefiable material.

9. (Previously Presented) The bone implant according to claim 1, wherein the implant portion to be implanted further comprises axially extending furrowing or tapping structures.

10. (Previously Presented) The bone implant according to claim 1, wherein the cutting edges extend along parts of the circumference of the implant and form lower edges of scale-like structures.

11. (Previously Presented) The bone implant according to claim 1, wherein a proximal end region of the implant comprises a collar with a lower edge fashioned as a cutting edge.

12. (Previously Presented) The bone implant according to claim 11, wherein the proximal end region comprises a ring of a thermoplastic material.

13. (Previously Presented) The bone implant according to claim 1, wherein the implant portion to be implanted tapers toward a distal end region.

14. (Previously Presented) The bone implant according to claim 13, further comprising steps extending wholly or partly around the implant and comprising at least partially edges fashioned as cutting edges.

15. (Previously Presented) The bone implant according to claim 14, wherein a part of the steps have blunt edges with a wedge angle (ß) of 90° or more.

16. (Previously Presented) The bone implant according to claim 1, wherein the implant portion to be implanted has an essentially cylindrical form and comprises cutting edges protruding from the cylindrical form and being distanced from the implant axis (I) by distances which decrease in the direction of implantation.

17. (Previously Presented) The bone implant according to claim 16, wherein the cutting edges protruding from the cylindrical form extend along a part of a circumference of the implant and are aligned in series in the axial direction.

18. (Previously Presented) The bone implant according to claim 17, further comprising at least two series of cutting edges facing each other, and wherein the surface ranges of the liquefiable material (M) or outlets of the openings are situated between the series on the implant's circumference.

19. (Previously Presented) The bone implant according to claim 1, further comprising a hollow space and a piston, said piston being insertable into a proximal opening of the hollow space.

20. (Previously Presented) The bone implant according to claim 19, wherein, on a proximal end of the piston and/or round the proximal opening of the hollow space, means for an insulating connection between piston and implant are provided.

21. (Previously Presented) The bone implant according to claim 1, wherein said implant carries an intermediate element on a proximal end region.

22. (Previously Presented) The bone implant according to claim 21, wherein the intermediate element is connected to the implant by a loose fit connection and/or is equipped to be joined to a sonotrode via a loose fit connection.

23. (Previously Presented) The bone implant according to claim 21, wherein said implant is a dental implant.

24. (Previously Presented) The bone implant according to claim 23, further comprising, in addition to a root portion, a crown portion, an abutment or means for fastening an abutment, a crown, a bridge or a set of dentures.

25. (Previously Presented) The bone implant according to claim 1, wherein the bone implant is a shaft of a joint prosthesis.

26. (Previously Presented) The bone implant according to claim 1, wherein the implant is adapted to bridge a bone defect.

27. – 45. (Cancelled)

46. (Currently Amended) A bone implant suitable for implantation in an

implantation direction parallel to an implant axis in a cavity surrounded by a cavity wall of bone tissue comprising an implant portion, wherein the implant portion to be implanted comprises surface ranges of a material, which is liquefiable by mechanical oscillation, and wherein the implant portion to be implanted is shaped to be implanted without substantial rotation and further comprises chip forming cutting edges ~~capable of~~ cutting the cavity wall of bone tissue, said cutting edges being located outside of the surface ranges of liquefiable material provided, said cutting edges not extending in a common plane with the implant axis, said cutting edges facing toward a distal end region of the implant and extending at least partly around the circumference of the implant, wherein said cutting edges are shaped to be moved into the bone tissue generally in the direction of the implant axis and wherein said cutting edges are distanced from the implant axis by implant-axis-to-cutting-edge-distances, which implant-axis-to-cutting-edge-distances are decreasing in the implanting direction.

47. (Currently Amended) A bone implant suitable for implantation in an implantation direction parallel to an implant axis in a cavity surrounded by a cavity wall of bone tissue comprising an implant portion, wherein the implant portion to be implanted comprises surface ranges formed by pressing liquefiable material out of a hollow space in the implant through openings, and wherein the implant portion to be implanted is shaped to be implanted without substantial rotation and further comprises chip forming cutting edges capable of cutting the cavity wall of bone tissue, said cutting edges being located outside of the surface ranges of liquefiable material to be created, said cutting edges not extending in a common plane with the

implant axis, said cutting edges facing toward a distal end region of the implant and extending at least partly around the circumference of the implant, wherein said cutting edges are shaped to be moved into the bone tissue generally in the direction of the implant axis and wherein said cutting edges are distanced from the implant axis by implant-axis-to-cutting-edge-distances, which implant-axis-to-cutting-edge-distances are decreasing in the implanting direction.